

What is Claimed Is:

1. A shaping method for use by a shaper (S) in a communication network to convert an incoming data flow (IN) with an incoming data packet rate (R-IN) into an outgoing data flow (OUT) with an adaptive outgoing data packet rate (R-OUT), said shaping method including the steps of buffering, with a buffer (BUF) of said shaper (S), data packets of said incoming data flow (IN) and generating thereby buffered data packets; and determining by a first determiner (DET1) of said shaper (S) a leaking time moment (P-rel) for a buffered data packet (P) of said buffered data packets, said leaking time moment (P-rel) being a time moment at which said buffered data packet (P) must be leaked by said buffer (BUF) and that determines thereby said adaptive outgoing data packet rate (R-OUT), said step of determining said leaking time moment (P-rel) being realized as a function of traffic contract parameters (PCR; MCR) related to said incoming data flow (IN), **characterized** in that said method further comprises the steps of:

receiving status information (STAT) of a marker (M) which is downstream coupled to said shaper (S);

- 20 determining a conform time moment (P-conf) according to said status information (STAT) and according to a predefined drop priority, said conform time moment (P-conf) being a time moment at which, in the event of leaking said data packet (P) by said buffer at said conform time moment (P-conf), said buffered data packet (P) receives from said marker, upon reception, said predefined drop priority; and

- 25 comparing said conform time moment (P-conf) with said leaking time moment (P-rel); and in the event when said conform time moment (P-conf) is earlier than said leaking time moment (P-rel), giving said leaking time moment (P-rel) the value of said conform time moment (P-conf) in order to leak said buffered data packet (P) at that time moment.

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2. The shaping method according to claim 1, characterized by determining said conform time moment (P-conf) according to a drop priority assigned to said buffered data packet (P).
- 5 3. The shaping method according to claim 1, characterized in that in the event that said conform time moment (P-conf) is later than said leaking time moment (P-rel), retaining by said comparing means (COMP) the value of said leaking time moment (P-rel) in order to leak said buffered data packet (P) at that time moment.
- 10 4. The shaping method according to claim 1, characterized in that in the event that said conform time moment (P-conf) is later than said leaking time moment (P-rel), leaking said buffered data packet (P) substantially immediately.
- 15 5. The shaping method according to claim 1, characterized in that in the event that said conform time moment (P-conf) is later than said leaking time moment (P-rel), said comparing means (COMP) gives said leaking time moment (P-rel) the value of a second conform time moment (P-conf') in order to leak said buffered data packet (P) at that second time moment, said second conform time moment (P-conf') being determined according to said status information (STAT) and according to a second drop priority and being earlier than said leaking time moment (P-rel).
- 20 6. A shaper (S) for use in a communication network to convert an incoming data flow (IN) with an incoming data packet rate (R-IN) into an outgoing data flow (OUT) with an adaptive outgoing data packet rate (R-OUT), said shaper (S) comprising a buffer (BUF) to buffer data packets of said incoming data flow (IN) and to generate thereby buffered data packets; and a first determiner (DET1) to determine a leaking time moment (P-rel) for one of said buffered data packets at which said buffered data packet (P) must be leaked by said buffer (BUF) and to determine therewith said adaptive outgoing data packet rate (R-OUT), said first determiner (DET1) being enabled to

determine said leaking time moment (P-rel) as a function of traffic contract parameters (PCR; MCR) being related to said incoming data flow (IN), **characterized** in that said shaper (S) further comprises:

- 5 a second determiner (DET2) receiving status information (STAT) of a marker (M) which is downstream coupled to said shaper (S) and determining a conform time moment (P-conf) according to said status information (STAT) for said buffered data packet (P), said conform time moment (P-conf) being a time moment at which, in the event of leaking said buffered data packet (P) by said buffer at said conform time moment (P-conf), said buffered data packet (P) receives upon reception from said marker (M) a predefined drop priority; and
- 10 a comparer (COMP) coupled between said first determiner (DET1), said second determiner (DET2) and said buffer (BUF) and comparing said conform time moment (P-conf) with said leaking time moment (P-rel) and, in the event that said conform time moment (P1-conf) is earlier than said leaking time moment (P-rel), giving said leaking time moment the value of said conform time moment (P-conf) in order to leak said buffered data packet (P) at that time moment.
- 15 7. A marker (M) for use in a communication network upstream coupled to a shaper (S), **characterized** in that said shaper (S) is a shaper according to claim 6 and that said marker (M) comprises a retriever (RET) retrieving from said marker (M) status information (STAT) and transmitting said status information (STAT) to said shaper (S).
- 20 8. A telecommunication network, comprising at least a shaper (S) according to claim 6.
- 25 9. A telecommunication network, comprising at least a marker (M) according to claim 7.